

Roof Safety Survey

GENERAL INFORMATION

CAMPUS:	Wollongong Campus
BUILDING:	Library (16)
DESCRIPTION:	Original flat concrete roof surrounded by handrail and parapet. More recent extensions on the northern and eastern sides have a metal roof with anchor points but no parapet or handrails.
RISK ASSESSMENT # :	UOW01585
ROOF ACCESS:	Multiple access points from stairwells in building 16 & 17
1) Main	Access via Stair 6
2) Secondary	Access via Stair 5
3) Via Building 17	Access from adjoining roof
4) Awning	Access via portable ladder on North west corner near cafe to connect to lifelines. Ladder brackets installed
SIGNAGE:	Danger - No Access to Roof without a Buildings and Grounds Roof Access UOW Permit to work; Caution - Trip Hazard.
COMPLIANCE PLATES:	No compliance plates - 10 anchor points on eastern awning, two on either end of the upper northern awning, six on the lower northern awning and two on the western awning
MARKED SAFE AREAS:	Within handrailed and marked painted areas
ROOFING SYSTEM:	TYPICAL ANCHORS Travel8 Static Line
HEIGHT OF BUILDING:	3 storey
PITCH:	Flat
ROOF CONSTRUCTION:	Concrete / Metal balonies
STRUCTURAL INTEGRITY:	Uneven surfaces. Sound structure
VEGETATION:	Nil
ADJOINING ROOFES:	IT Resource Centre (17)

SERVICES:

Gutters	Yes
A/C Units	Yes
Exhaust Fans	Yes
Ducts	Yes
Roof Ventilators	Yes
Fume Cupboards	No
Telco Towers	2

Satellite Dishes	Yes
Antenna	Yes
Skylights Domes	No
Glass Skylights	No
Pipework	Yes
Cooling Tower	Yes

EXISTING SAFETY ITEMS:

Horizontal Lifelines	Yes
Anchor Points	Yes
Vertical Lifelines	No

Handrail	Yes
Walkway	No
Parapets	Yes

WORK ACTIVITY DETAILS:

Clean Gutters / Routine Maintainer	Yes
Service A/C Plant	Yes
Cooling Tower Maintenance	Yes

Frequency

Every 3 Months
Monthly
Monthly

Note: Before commencing any work obtain Roof Permit from Facilities Management Division

Roof Safety Survey

RISK ASSESSMENT

Risk Assessment / Task Location

BUILDING 16

Note: The hazards identified do not include hazards that related to specific work tasks. These should be identified in the Safe Work Method Statement (SWMS) of the contractor.

Hazard Identification		Risk Assessment & Control Measures		Risk Control
What is the Activity/Service Item	What are the potential Hazards	What is the Risk Level	List any Control Measures already Implemented	Describe what can be done to eliminate risk or reduce the harm
Access From Bldg 16 Stairwell	Negligible risk	Negligible	Fire Stair Access	Negligible risk
Access Concrete Roof within Handrail Area	Trip Hazards on Roof Area from pipework, air-conditioning services, electrical trays and steps. Negligible risk of falling if worker stays within handrail	Medium	Caution when crossing services, small section of Stairs	Additional Signage and demarcation
Access Color Bond Roof outside Handrail Area	Trip Hazard & Falling	High	Anchor Points	Harness to Anchor Points
Access to plantroom Roof	Falls from climbing. While on roof there is no protection from fall.	Medium	None	Ensure SWMS developed is followed by Contractors
Access to Roof	Unauthorised access	Medium	All access points to roof are locked and made secure so are not accessible by unauthorised persons; signage	Risk Assessment and Roof Safety Survey
General - Working on Roof	Leaves & Branches, Contractors rubbish	Medium	Maintenance	Continuing Maintenance/cleaning
Antenna Maintenance	RF hazard	High	Refer to RF website: www.rfnsa.com.au/nsa/index.cgi	Adequate signage required and demarkation
A/C Maintenance	Refer to SWMS of contractor	Medium	Currently not near a roof edge	Ensure SWMS developed is followed by Contractors
Cleaning of Drains on Concrete Roof	Negligible risk	Low	Handrail Provided	Negligible risk
Cleaning of Gutters on Concrete Roof	Trip Hazard & Falling	Medium	Anchor Points	Harness to Anchor Points
Maintenance of Telco Towers	Refer to SWMS of Telco	Medium	The Telco Contractors have their own controls	Telco Responsibility
General	Trip Hazard - Horizontal Lifeline or Anchor Points	Medium	Signage & System is visible	Be aware of location of horizontal lifeline & anchor points
General	Environmental Hazards - Spiders, Wasps, and other insects	Medium	Appropriate PPE and insect repellent and Pest control as required	On-going pest control measures
General	Weather Trips/Slips - Wet Roofs	Medium	No access to Colorbond roof in wet weather. If accessing concrete roof, be careful while walking over slippery services	No access to Colorbond roof in wet weather. Only access roof in rain when necessary. Be careful working around slippery services.
General	Weather - Hot Conditions	Medium	Thermal Comfort Guidelines	Use sun cream, hats and remain hydrated and take appropriate breaks

Reference Documentation

Legislation

NSW Work Health and Safety Regulation 2011 Part 4.4 Falls

Public Health (Microbial Control) Regulation 2000

Australian Standards

AS 1657 - 2013 : Fixed platforms, walkways, stairways and ladders - Design, construction and installation

AS 1891.1 - 2007 : Industrial fall-arrest systems and devices - Harnesses and ancillary equipment

AS 1891.2 - 2001 : Industrial fall-arrest systems and devices - Horizontal lifeline and rail systems

AS 1891.3 - 1997 : Industrial fall-arrest systems and devices - Fall-arrest devices

AS 1891.4 - 2009 : Industrial fall-arrest systems and devices - Selection, use and maintenance

AS 2210.1 - 2010 : Safety, protective and occupational footwear - Guide to selection, care and use

AS 3666- 2011 : Air-handling & Water Systems for Buildings - Microbial Control

AS 4994.1 - 2009 : Temporary edge protection - General requirements

AS 4994.2 - 2009 : Temporary edge protection - Roof edge protection - Installation and dismantling

AS 5532 - 2013 : Manufacturing requirements for single-point anchor device used for harness-based work at height

Code of Practice

Safe Work Australia - Managing the Risk of Falls at Workplaces

NSW Health Department Code of Practice for the Control of Legionnaires' Disease

UOW Documentation

Managing the Risk of Falls Guidelines

Thermal Comfort Guidelines

UOW Roof Access Permit

UOW Roof Access Certificate

Other

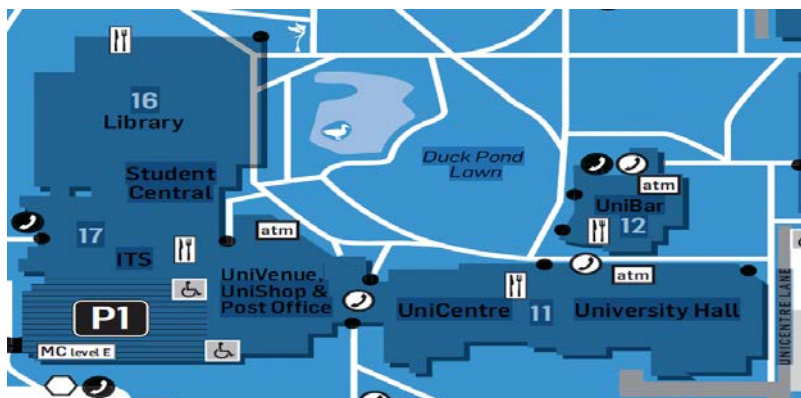
SALA - Fall Arrest and Height Safety Systems - Fall Protection Manual

WorkCover - Safe Working at Heights Guide 2006

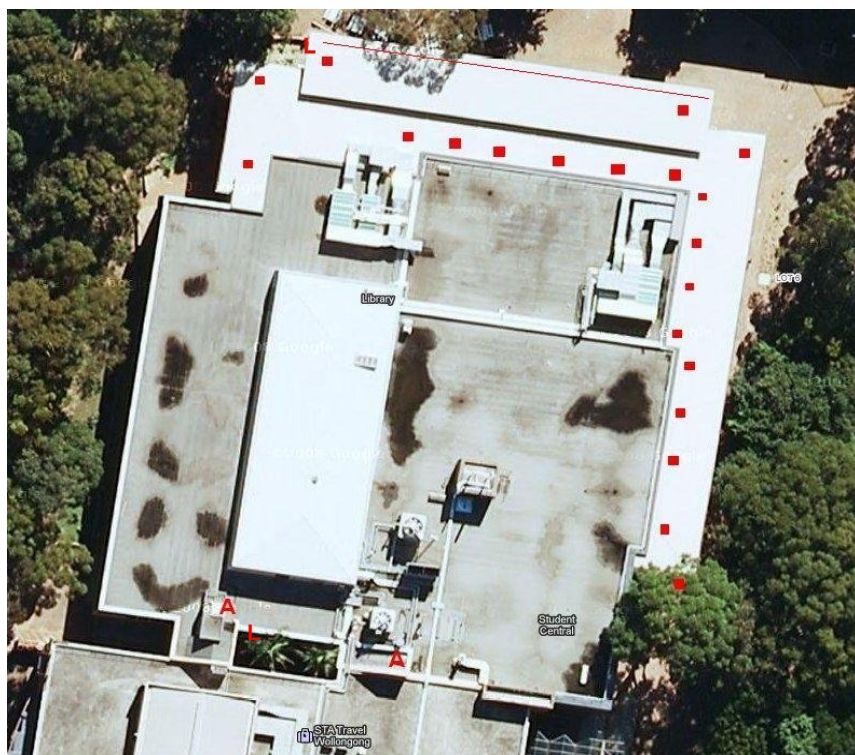
MCF Fact Sheets - Working safely around Radiofrequency (RF) Transmitters

Radio Frequency National Site Archive - <http://www.rfnsa.com.au/nsa/index.cgi>

Building 16 Roof Safety Assessment



Campus Map



- L - Location of ladder bracket
- A - Location of Access to roof
- - Location of anchor point
- Horizontal Lifeline

Building 16 Roof Safety Assessment



Looking East from main access point



Small Plantroom beside access stairs



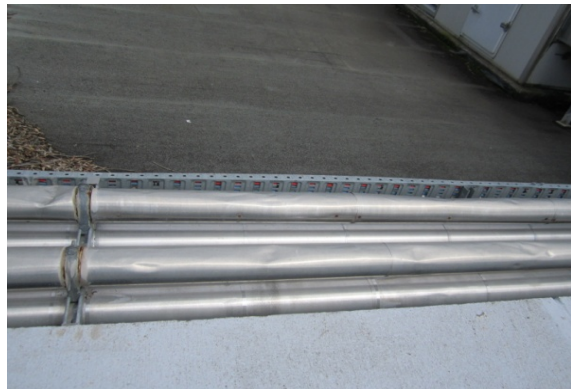
Looking North from main access point on western side of building



Looking North onto balcony on western side of building



Looking North onto balcony on northern side of building



Pipework on roof

Building 16 Roof Safety Assessment



Position of anchor points on North west corner



Airconditioning unit on northern side of building



Cooling towers in centre of building and secondary access stairs



Library - Eastern balcony looking north



Ladder down to courtyard awning

GUIDE LINE ONLY

THIS OPERATION MANUAL SHOULD BE CONSIDERED A GUIDE ONLY. ALL PERSONS USING THE EQUIPMENT LISTED IN THIS MANUAL MUST BE COMPETENTLY TRAINED. "THE INSTALLER" INSTALLS SYSTEMS ONLY AND DOES NOT MANUFACTURE THE SYSTEMS. END USERS TO ENQUIRE WITH "THE MANUFACTURER" (BULLIVANTS) AT THEIR OWN DISCRETION. ALWAYS FOLLOW MANUFACTURERS INSTRUCTIONS.

TYPICAL ANCHORS





TRAVEL 8 PERMANENT STATIC LINE SYSTEM

The Travel 8 Permanent Static Line is a proprietary fall arrest system suitable for multiple users. The system provides continuous attachment and effective fall protection across roof surfaces and other elevated areas to which safe access is required. The system incorporates low profile, high quality componentry which can be used in horizontal, vertical and overhead applications using the required system traveller.

- > Advanced energy absorbing and multi user capability
- > Smooth intermediate pass through system using the Pilot Traveller
- > Various adaptable mounting facilities
- > Simple installation using modular componentry
- > Low profile system blends in with surroundings

**THIS USER MANUAL
MUST BE READ AND
UNDERSTOOD PRIOR
TO USE OF THIS SYTEM**





IMPORTANT USAGE & MAINTENANCE INSTRUCTIONS



MUST BE READ PRIOR TO USE

1. Prior to use, ensure all operating procedures have been read and understood.
2. This system is only to be used by competent persons who have experience and training in the safe use of the system and associated equipment.
3. Ensure all associated risks are identified and controlled prior to use of this system.
4. This system will require periodical inspection and maintenance by a qualified height safety inspector. The system must not be used if the current date exceeds the due service date.
5. A rescue plan must be devised and be ready to be implemented prior to usage of this system.
6. Authorisation to enter any risk area must be obtained from the person in control of the workplace prior to accessing.
7. Only approved full body harness, lanyards and fall arrest device with energy absorber certified to Australian Standard AS/NZS 1891, to be used with this system.
8. Visually inspect the system for damage prior to use. System must not be used if there is any deterioration or deformation of any components or structure to which the system is attached.
9. In the event of a fall and/or damage to the system, usage must be prohibited until the system has been fully inspected and recertified by a qualified height safety equipment inspector.
10. Applicable Australian Standards, OHS Acts and Regulations, Codes of Practice and Guidelines must be read and adhered to prior to use of this system.



Failure to follow all warnings, usage and maintenance instructions may result in serious injury or death.



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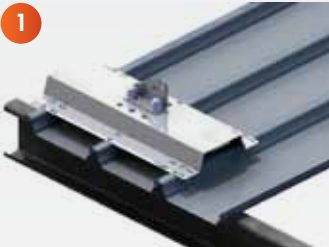
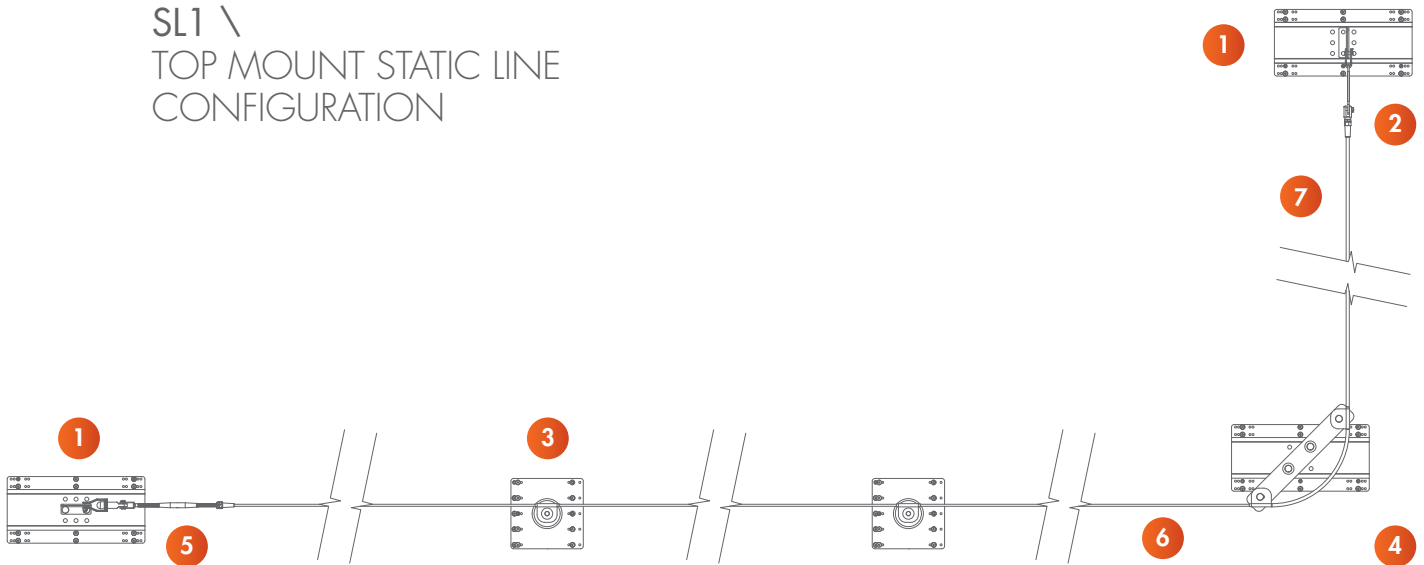
Failure to follow all warnings, useage and maintenance instructions may result in serious injury or death.



SYSTEM KNOWLEDGE

IT IS IMPORTANT TO KNOW AND UNDERSTAND THE SYSTEM COMPONENTS, CONFIGURATION AND USES OF THE SYSTEM.

SL1 \ TOP MOUNT STATIC LINE CONFIGURATION



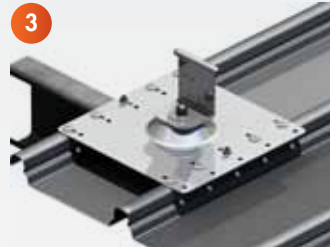
END STANCHION - SL203

This provides a secure termination anchorage for the cable.



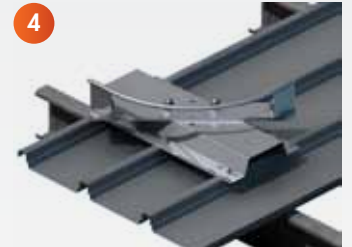
ENERGY ABSORBER - SL 215

Designed to deploy under excessive load limiting forces on the system and operator.



INTERMEDIATE - SL 209.10

To support the cable and reduce load limiting forces on the end stanchions.



CORNER - SL 223

Supports a change in the direction of the cable.



LINE TENSIONER - SL 218

Ensures line tension can be adjusted after installation and during maintenance.



ANCHORAGE CABLE - SL 230

Stainless steel cable to which the system traveller attaches.



SYSTEM TRAVELLER - SL 227

The device to which the operator's harness/lanyard attaches during use. This unit attaches to the anchorage cable.



SYSTEM LIMITATIONS



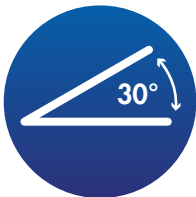
Only to be used by competent persons with proof of training by registered training organisation in height safety and fall arrest systems.



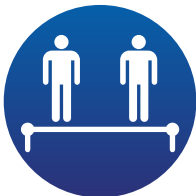
Only Australian Standards certified harness gear to be used.



Only to be used with approved system traveller.



Not to be used on slopes exceeding 30°



Do not exceed allowed number of persons per span.



Do not tamper with system components.



Not to be used for tethering or lifting machinery



System must be periodically checked by qualified height safety equipment inspector.



PROCEDURE FOR SAFE USE OF THE TRAVEL8 SYSTEM

PRIOR TO USE



Ensure all workplace OH&S requirements are identified and understood. A risk assessment with a safe work method procedure must be completed and approved by management.



Ensure the limitations of this system have been read, understood and implemented prior to use of this system.



Check the system has been serviced/recertified in accordance with Australian Standards and manufacturer recommendations. System must not be used if due service date exceeds current date.



Line tension must be sufficient so that the line is not resting on the roofdeck. Tensioning of the line must be only done by a competent person.



Ensure all fixings, fittings and attachment hardware are secured. Any tightening and replacement of attachment hardware must be done by a competent person.



Any damage/deterioration of the structure must be reported and the system decommissioned until analysed and recertified by a competent person.



Check the energy absorber for signs of deployment. Should the red indicator be visible, this indicates the system has sustained an abnormal load. The system must not be used until checked and recertified by a competent person.



PROCEDURE FOR SAFE USE OF THE TRAVEL8 STATIC LINE SYSTEM



STEP 1

Ensure a full body harness and suitable rope line is used with this system!



Harness Gear must be certified to Australian Standards AS/NZ 1981



Travel 8 system must be used with a tear-web lanyard connected to rear dorsal ring of harness.



Ensure Harness Gear serviceability dates are current.



STEP 2

Only the Pilot shuttle must be used with Travel 8 static line system!



STEP 3

Approach static line system from a 'Safe Zone' i.e. no risk of fall or injury.



STEP 4

Pilot shuttle must be fitted correctly to Travel 8 static line system!



PROCEDURE FOR SAFE USE OF THE TRAVEL8 STATIC LINE SYSTEM



STEP 4A

Remove karabiner.



STEP 4B

Slide latch to open position.



STEP 4C

Place onto cable.



STEP 4D

Flip shuttle over and slide latch to closed position.



PROCEDURE FOR SAFE USE OF THE TRAVEL8 STATIC LINE SYSTEM



STEP 4E

Insert karabiner.



Ensure Shuttle is securely attached to cable and Karabiner screw gate is closed and locked.



STEP 4F

Shuttle is ready to use!



STEP 5

Attach lanyard to Pilot shuttle karabiner.



Rope line must be attached to harness via tear-web energy absorbing lanyard.



STEP 6

Adjust rope line to a safe and comfortable distance to traverse roof.



Maintain close proximity to static line for optimum safety and shuttle traversing.



PROCEDURE FOR SAFE USE OF THE TRAVEL8 STATIC LINE SYSTEM



STEP 7

Once in line with area to be accessed, payout rope line evenly toward roof edge.



Ensure NO slack rope line!



STEP 8

Ensure there is NO possibility of pendulum when at fall edge!



User must remain in restraint at all times limiting access beyond the fall edge ie: NO slack rope line!



STEP 9

Use diversion anchorage to access corners or possible pendulum areas.

Attach rope line to diversion anchorage using Karabiner.



STEP 10

Disconnecting from the system – return to Static Line keeping rope line tensioned.



Ensure there is no risk of a fall at detachment location!



PROCEDURE FOR SAFE USE OF THE TRAVEL8 STATIC LINE SYSTEM



STEP 11

Disconnect Pilot shuttle.



STEP 12

Harness equipment must be stored in carry bag provided and kept in a dry environment.



Any damage to Harness Gear or Static Line system during use, **MUST** be reported to the workplace manager.





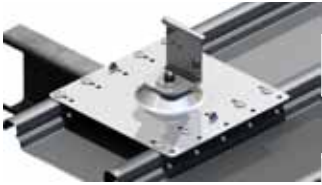

STEP 13

Proceed safely back to the roof access point.







SYSTEM MAINTENANCE AND INSPECTION REQUIREMENTS

- ☺ **COMPONENTRY/SYSTEM IN GOOD WORKING ORDER** and suitable for use until next due checking date.
- ☹ **COMPONENTRY/SYSTEM REQUIRES ATTENTION** but is still suitable for use.
Identify recertification works with suitable signage. Arrange for recertification using qualified system installer.
- ☹ **COMPONENTRY/SYSTEM IS NOT SAFE FOR USE.**
Prohibit use of system and attach suitable 'out of service' signage. Arrange for recertification using qualified system installer.

COMPONENT	INSPECTION CRITERIA	☺	☹	☹
END STANCHION CODE: SL203 	Unit to structure secure			
	All fixings secure			
	No evidence of roof leaks			
	No visible damage to unit/structure			
	Other:			
ENERGY ABSORBER CODE: SL215 	Secure attachment to end stanchion			
	Lock in pin circlip secure			
	No 'red' excessive load indicator visible			
	No visible damage to unit/structure			
	Other:			
INTERMEDIATE CODE: SL209 	Unit to structure secure			
	Cable support brackets secure			
	No evidence of roof leaks			
	No visible damage to unit/structure			
	Other:			
CORNER CODE: SL223 	Unit to structure secure			
	Cable support brackets secure			
	All fixings secure			
	No evidence of roof leaks			
	No visible damage to unit/structure			
	Other:			



THIS SYSTEM MUST ONLY BE MAINTAINED BY A CERTIFIED HEIGHT SAFETY EQUIPMENT INSPECTOR TRAINED IN THE SAFE USE & MAINTENANCE OF THIS SYSTEM.

COMPONENT	INSPECTION CRITERIA	☺	☹	☹
LINE TENSIONER CODE: SL213.10 	Secure attachment to end stanchion			
	Lock in pin circlip secure			
	Tension indicator disc can be rotated manually			
	Swaged cable termination secure, no evidence of slipping			
	All locknuts and fixings secure			
	No visible damage to unit/structure			
	Other:			
ANCHORAGE CABLE CODE: SL230 	No cuts or frays to cable			
	Cable correctly tensioned ie. not touching the roofdeck			
	Securely attached to end stanchions			
	No visible damage			
	Other:			
SYSTEM TRAVELLER CODE: SL227 	Slide latch operates freely			
	Gap between tongue & shuttle inner casing when closed and latched with karabiner 6mm max			
	Karabiner fits securely when slide latch closed			
	Karabiner gate lock device operates securely			
	No visible damage to unit			
	Other:			
DATA PLATE CODE: 	Data plate attached nearby system			
	All relevant data completed as well as record of maintenance			
	Other:			



SYSTEM CONFIGURATIONS

TYPICAL CONFIGURATIONS

travelo

SL1 \
TOP MOUNT STATIC
LINE SYSTEM



travelo

SL2 \
CONCRETE/STEEL STRUCTURE
MOUNT STATIC LINE SYSTEM



travelo

SL3 \
STEEL PURLIN MOUNT
STATIC LINE SYSTEM



travelo

SL4 \
TIMBER MOUNT STATIC
LINE SYSTEM



Failure to follow all warnings, usage and maintenance instructions may result in serious injury or death.



TRAVEL8® PERMANENT STATIC LINE SYSTEM

The Travel 8 Permanent Static Line is a proprietary fall arrest system suitable for multiple users. The system provides continuous attachment and effective fall protection across roof surfaces and other elevated areas to which safe access is required. The system incorporates low profile, high quality componentry which can be used in horizontal, vertical and overhead applications using the required system traveller.

- > Advanced energy absorbing ability and multi user capability
- > Smooth intermediate pass through system using the Pilot Traveller
- > Various adaptable mounting facilities
- > Simple installation using standard componentry
- > Low profile system blends in with surroundings

SPECIFICATION CODE

Travel 8 Static Line System (SL1) – Top Mount

Travel 8 Static Line System (SL2) – Concrete Mount

Travel 8 Static Line System (SL3) – Purlin Mount

Specification Summary

Supply and install the Travel 8 Static Line System as per supplier, Sayfa Systems, recommendations. System to incorporate applicable low impact end anchorages, intermediate line support anchorages, corner modules, line tensioners and shock absorption componentry as specified by the manufacturer. System to provide 'pass through' traveller action over intermediate line support anchorages ensuring freedom of movement and constant operator attachment to the system. System functions in horizontal, vertical and overhead applications using the applicable line traveller. (Refer instruction manual.)

System Applications

- > Periodical maintenance of gutters and roof edges
- > Provides high level safety for workmen and maintenance personnel
- > Access to roof mounted plant and equipment
- > Effective fall protection over brittle roof surfaces, skylights, glass, slate and asbestos roof decks

Technical Data

Material

316 stainless steel profiled plate assembly including: End stanchions, intermediates, corners, cable and connection devices.

Dimensions

Attachment Cable – 8mm (7 x 7 strand)
Cable Height off structure – 125mm to 150mm
Intermediate Spacing – 6.0m to 8.0m intervals

Cable Tension

800 N – set with self-tensioning device

Working Load Limit

User Weight Limit – 120kg (user & equipment)

- > Up to 4 users per line, determined by intermediate spacing and roof pitch
- > Maximum roof pitch – 30°
- > Support structure integrity, suitability and fixing method to be assessed and determined by a competent person prior to installation
- > Travel 8 Static Line System must only be used with the approved Pilot Traveller device and harness system with energy absorber as per AS/NZS1891.1:2009 and AS/NZS1891.4:2009

Fixings

Metal fixing – M14 stainless steel stud fixing
Concrete fixing – M12 mechanical concrete anchor
Metal roof deck fixing – 8mm construction grade
Bulbrite rivets (Refer instruction manual.)

Compliance

Travel 8 Static Line System is designed and manufactured generally in accordance with requirements of Australian Standards AS/NZS1891.2:2001 and AS/NZS1891.4:2009 and relevant statutory OHS Codes of Practice/Guidelines.

Testing

Testing and performance based on requirements of Australian Standards AS/NZS1891.2:2001 and AS/NZS1891.4:2009. Following a dynamic load applied to the system, resultant reduced loads (due to energy absorbing characteristics) as follows:

- > Intermediate – 6.48kN
- > End stanchion – 8.56kN

Product Warranty

3 years from date of purchase subject to installation in accordance with manufacturer's specifications and recommendations.

Inspection and Maintenance

Inspection and certification every 12 months by competent person in accordance with manufacturer's specifications and requirements of Australian Standard AS/NZS1891.4:2009 Section (9).
(Refer instruction manual.)

Important Note

Failure to supply and/or install proprietary product in accordance with above standards and codes, specifications and instructions voids complete system certification and/or warranty.

Technical Support

Sayfa Systems

T \ 1300 301 755

F \ 1300 881 092

E \ technical@sayfa.com.au

W \ www.sayfa.com.au

Designed and manufactured by Sayfa Systems



WARRANTY INFORMATION

WARRANTY PERIOD ON THIS SYSTEM - 3 YEARS FROM DATE OF PURCHASE

Should you have a warranty claim as a result of a defect the following procedure must be followed:

Identify the following information:

- The product/system name and code number
- The date of purchase/installation
- The name of the installation company
- The installation identification number
- A description of the defect/warranty claim

Forward the above information to www.travel8-staticline/warranty or contact technical helpline: 1 300 301 755.

WARRANTY TERMS & CONDITIONS

- All warranty claims must be made in writing within 14 days of the appearance of the defect.
- Incorrect installation or work done by a non accredited Travel8 system installer will void all warranty rights.
- Systems/components that have not been maintained in accordance with manufacturer's/legislative requirements will void all warranty rights.
- Systems used by incompetent personnel or use with non compatible accessories ie. harness gear, lanyards, travellers, fall arrestors etc., will void all warranty/rights.
- Systems/components used for purposes other than their intended use will void all warranty claims.
- General wear and tear is expected and will depend on the frequency of use and is not covered by the manufacturer's warranty.

NEVER HAS SAFETY
IN THE WORKPLACE
HAD A HIGHER PRIORITY